

ALL-HTTP MULTIMEDIA MESSAGING

BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention

[0002] This invention relates generally to computer and communication networks, and more specifically, to wireless carriers, wireless telecommunications, mobile phone software developers, information content delivery services and providers, multimedia messaging service (MMS), and IETF-specification compliant interfaces in general.

[0003] 2. Background of Related Art

[0004] Standards for wireless multimedia messaging exist, e.g., WAP-Based MMS (www.openmobilealliance.org) and Internet Email-Based MMS (SMTP/IMAP4/POP3). Existing standards for wireless Multimedia Messaging rely on the presence of a Wireless Application Protocol (WAP) Gateway and the use of WAP encapsulation techniques in order to transfer multimedia messages between origin servers and mobile stations. The problem this creates is twofold: 1) Not all wireless service providers make use of WAP Gateways in their mobile networks and 2) Many service providers who have offered WAP-based services in the past have no desire to base their forward-looking, next generation services on WAP technologies which have proven sub-standard in the past. The creation of a wireless multimedia messaging framework that relies entirely on specifications endorsed by the Internet Engineering Task Force (IETF), the body in charge of the standardization of the public Internet, would allow wireless service providers to field MMS services that are fully Internet-standard compliant and hence WAP free. The IETF specification is explicitly incorporated herein in its entirety by reference.

[0005] Conventional systems do not provide an IETF-compliant (non-WAP) interface between mobile MMS User Agents and Multimedia Messaging Service Center servers. The state-of-the-art in this arena at present involves the use of WAP MMS specifications created by the WAP Forum to implement a non-homogeneous interface from MMSC to WAP Gateway, and then from WAP Gateway to WAP MMS User Agent. The WAP Gateway acts as a protocol converter between the HTTP interface to the MMSC (which acts as an Origin Server) and the WSP interface to the WAP MMS User Agent (which is WAP-browser based). Other Wireless Telecommunication software vendors have proposed non-WAP solutions for this interface in the past, but they have relied on Internet email protocols (SMTP, POP3, IMAP4) for multimedia message transport.

[0006] Moreover, conventional systems fail to provide an IETF-compliant (non-WAP) interface between mobile MMS User Agents and Multimedia Messaging Service Center servers. The current state-of-the-art technology, WAP-based MMS, has the following disadvantages: 1) WAP is a partially proprietary protocol and is not a truly 'global' standard, 2) Many wireless Service Providers and their subscribers have been very disillusioned with WAP-based applications in the past, focusing on WAP's poor performance and unimpressive features, 3) WAP MMS requires not only the use of a WAP Gateway installed in the Service Provider's network, but the WAP Gateway must be of the latest protocol version. Given worldwide economic conditions, many Service Providers do not wish to use their

resources upgrading systems which have had little success in the past. 4) WAP solutions use message-traffic intensive protocols and couples them with additional WAP-specific overhead producing an application that uses significant bandwidth.

[0007] Some proposals in the wireless world promote the use of other non-WAP solutions for MMS. Some of these rely on Internet email protocols (SMTP, POP3, IMAP4). However, these protocols are inherently poor performers in wireless due to the "chatty", traffic-intensive nature of email transport.

SUMMARY OF THE INVENTION

[0008] In accordance with the principles of the present invention, a method and apparatus are provided for sending a multimedia message, comprising of inserting a multimedia message into an HTTP POST command. The HTTP POST command is addressed to the multimedia message database. The HTTP POST command (including the multimedia message) is transmitted via a wireless network.

[0009] In accordance with another aspect of the present invention, a method and apparatus are provided for receiving a multimedia message, comprising receiving a multimedia message Notification message. An HTTP GET command is transmitted to retrieve a multimedia message from a multimedia message database. A response to the HTTP GET command is received, including the retrieved multimedia message.

[0010] In yet another aspect, a method and apparatus for servicing multimedia message transmission and delivery comprises receiving from a first wireless device an HTTP POST command including a multimedia message intended for a second wireless device. The second wireless device is notified of the availability of a multimedia message. The notification is an HTTP GET command, which retrieves the multimedia message.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] Features and advantages of the present invention will become apparent to those skilled in the art from the following description with reference to the drawings, in which:

[0012] FIG. 1 shows an exemplary embodiment of an IETF-compliant MMS interface as used for the submission of a multimedia message (MM) from a user agent (e.g., a Pocket PC) to an MMSC, and for the retrieval (download) of the same MM to a recipient's user agent (e.g., a PocketPC), in accordance with the principles of the present invention.

[0013] FIG. 2 shows the exemplary message flow shown in FIG. 1.

DETAILED DESCRIPTION OF ILLUSTRATIVE EMBODIMENTS

[0014] The present invention provides a WAP-free, IETF-Specification Compliant Multimedia Message Service Center (MMSC)-Multimedia Message Service (MMS) User Agent Interface based on the Hyper Text Transfer Protocol (HTTP). In accordance with the principles of the present invention, an All-HTTP interface is provided, using HTTP